

Region 1 FY 2014 Invasive Species Control Program Proposal

Refuge/complex name: Mid-Columbia River NWR Complex

Project title: Eradication of Yellow-flag Iris

Total amount requested: \$14,600

Project description:

Target Invasive Species: Yellow-flag iris (*Iris pseudacorus*)

Infested Acres: approx. 12 acres in small, isolated patches within ~4,000 acres on three refuges

Treatment Acres: approx. 12 acres

Yellow-flag iris is an escaped ornamental rhizomatous perennial herb that forms dense vegetative mats in riparian and wetland areas. These mats can displace most native vegetation in infestation areas, significantly degrading native habitats and altering stream and shoreline hydrology, negatively impacting habitat quality for numerous species of migratory waterfowl, secretive waterbirds, other migratory birds and native salmonids. Yellow-flag iris is a Class "C" noxious weed in Washington State, and "B" designated in Oregon.

Yellow-flag iris was first noticed on McNary NWR in ~2009 in two small (<10') patches in a moist soil management unit. By 2011 it had shown up in 4 other disparate areas in two other management units and now covers ~2 acres of riparian habitats within ~80 acres. The original source of the infestation is unknown, but is believed to have originated from seed. No other significant infestations are known to be nearby upstream of the refuge on any of the three rivers crossing the refuge. Yellow-flag iris was first noticed on Toppenish NWR in ~2010. In 2012, numerous small patches were seen in many of the marsh units of the refuge, covering ~5 acres within ~2,000 acres of impoundments. No infestation source is known to be upstream of the refuge. It is believed to have been brought in by wildlife during flooding events in 2009 and 2010 from infestations downstream of the refuge (in the Yakima River drainage) and/or from ornamental plantings. In 2013 yellow-flag iris was reported on Columbia NWR and the Complex Strike Team made initial chemical control treatments. Additional patches are reported to be present, estimated at ~3 acres spread through ~2,000 acres of refuge grounds. At this time it is unclear where this infestation originated.

The proposed project will lead to the eradication of yellow-flag iris from all three refuges. Known infestations will be targeted for chemical application (aquatic-labeled glyphosate @ 5-8% solution, with aquatic-labeled surfactant/penetrant) and/or manual removal where necessary (e.g., small, isolated infestations or individual plants growing with sensitive native vegetation). The remaining susceptible areas of the Refuges will be systematically inspected for additional occurrences, and any found plants will be treated and/or removed.

Distinct project with well-defined objectives (10 points):

Yellow-flag iris is a relatively new invasive species for the Complex as a whole. No source populations are known near to Refuge boundaries. Last year was the first year this species was targeted for treatment by Complex personnel; however these efforts were hindered by sequestration-induced cuts and hiring freezes. The Complex has received a NFWF grant to partially fund a seasonal Invasives Strike Team through 2015, tasked to target infestations that otherwise would go untreated. In the Columbia Basin, yellow-flag iris will often flower in its first year of growth, and the conspicuous flowers make new infestations relatively easy to spot as no other riparian vegetation occurring on the refuges is even remotely similar in appearance, making locating and treating infestations relatively easy. However, under

Comment [BF1]: Distinct project, but I see no objectives for the control effort. What percent control are they anticipating after the second year of treatment?

the NFWF grant the Strike Team is budgeted to begin later than the optimal treatment period. The proposed project would offset costs to allow the Strike Team to be brought on earlier to target iris.

Potential for maximum control/Likelihood of success (10 points):

It is anticipated that yellow-flag iris can be eradicated from both refuges with one to two years of effort, depending on the seed bank and germination. However, without specifically knowing the origin of the current infestations it is impossible to define the potential longevity of eradication/control on either refuge. Given that no large infestations are known upstream of the refuges, and that yellow-flag iris is a species specifically targeted by county weed control boards and irrigation districts (i.e., infestations outside of the refuges are being treated as encountered), the likelihood of extended control is high. The proposed control methods (chemical treatment and manual removal) are known to be highly effective against iris as long as the entire plant is treated and no plant parts are left during removal.

Comment [BF2]: What is written is comforting, but the simple fact that the Refuge is asking for the same amount of funding for the second year makes me less optimistic.

Biological benefit to priority species or BIDEH (10 points):

Left unchecked, yellow-flag iris forms dense mats of vegetation, outcompeting most native plants and significantly altering in-stream and shoreline hydrology. This includes cover and forage habitats of numerous species of migratory waterfowl, including ducks, geese, and swans, and waterbirds, such as pelicans; cover, forage, and breeding habitats of secretive waterbirds, including rails and bitterns; cover, forage, and breeding habitats of migratory songbirds, including blackbirds, wrens, and sparrows; and cover and forage habitats of numerous salmonids, including steelhead (*Oncorhynchus mykiss*). All of these are trust species.

Comment [BF3]: All-in-all, I see this as an important ED/RR project. Plain and simple, they don't want it, and they need to get on top of it now.

Sustainability (10 points):

All proposed activities should be accomplished within the current fiscal year. Monitoring and mapping will be done to determine what, if any, future treatments will be needed to fully eradicate this species from the refuges. Future needs will be entirely dependent on the results of this year's actions.

Comment [BF4]: I'm encouraged by the 1-2 year time frame listed above, but I don't love the mention of "future needs" when they are already into the year 2 request.

Monitoring to document and evaluate project success (10 points):

Monitoring will be accomplished through direct observation of treated infestations. Infestations will be GPS'ed using hand-held Trimble® units and a customized data dictionary in TerraSync®. These GPS files will be imported into the Complex's GIS for long-term documentation and monitoring. Treated sites will be revisited in subsequent years and retreatments will be made as needed. A concurrent (but generally separate) invasives mapping project will be looking for additional infestations on Complex refuges.

Budget: \$14,600

Personnel: \$12,600
Equipment/Travel: \$1,600
Materials: \$400

The Complex will be forming another Invasives Strike Team for 2014 to target other projects on the Complex. The requested personnel funds will allow for the extension of this Strike Team earlier in the year than is allowed for in the current base funding (yellow-flag iris is treated earlier in the season than the Strike Team is budgeted to begin). These funds will also help to cover the development of any requisite NPDES permits. The equipment and travel expenses will cover fuel and vehicle costs to travel to the infested refuges and sites. The Strike Team is to be based out of the Burbank office. Toppenish is approx. 160 miles round-trip from Burbank. The McNary infestation sites are approx. 40 miles round-trip from the Burbank office. The Columbia infestations are up to 200 miles round-trip from Burbank.

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